

# Notice of Allowability

Application No.

09/275,568

Examiner

Cheyne D. Ly

Applicant(s)

PITMAN ET AL.

Art Unit

2168

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to July 06, 2007.
2. ☒ The allowed claim(s) is/are 1,4,7-15 and 31-33.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 7/30/07
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
10/14/07

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Michael Buchenhomer on July 30, 2007.
3. Cancel claims 5 and 6.
4. **REPLACE** Claim 1 with claim 1 amended by examiner (without underlined and cross marked) set forth below:

1. A method implemented in a data processing system for generating and storing data characterizing at least one region of said plurality of regions, wherein the data process system comprising a plurality of descriptor vectors associated with a plurality of regions of molecules stored in a database, wherein the plurality of descriptor vectors are classified into groups, the method comprising the steps of:

generating an entry comprising i) an identifier that identifies said at least one region, and ii) data characterizing a set of axes derived from a property distribution of said at least one region;

mapping a descriptor vector associated with said at least one region based on preselected criteria, wherein the mapping maps said plurality of descriptor vectors to a space discriminating between said groups of descriptor vectors;

wherein said mapping is derived from the steps of:

generating first data representing differences between said groups of descriptor vectors;

generating second data representing variations within said groups of descriptor vectors;

identifying a set of component vectors that maximizes an F distributed criterion function, said F distributed criterion function having a numerator based upon said first data and a denominator based upon said second data;

generating an F distributed statistic for subsets of said component vectors, said F distributed statistic having a numerator based upon said first data and a denominator based upon said second data;

for each particular subset of component vectors, calculating a probability value for the F-distributed statistic associated with the particular subset;

selecting a probability value from probability values for said subsets of component vectors based upon a predetermined criterion;

identifying the subset of said component vectors associated with the selected probability value;

generating a mapping to a space corresponding to the subset of component vectors associated with the selected probability value, and storing the mapping for subsequent processing;

generating a key that corresponds to said mapping of the descriptor vector associated with said at least one region; and

storing said entry in a memory, wherein said key is associated with said entry such that the key indexes the entry for retrieval.

#### **AMEND CLAIMS 7, 15, 31, AND 33 AS SET FORTH BELOW**

Claim 7, line 1, **delete** "claim 6", **insert** therefor —claim 1—

Claim 15, line 1, **delete** "claim 6", **insert** therefor —claim 1—

Claim 31, line 1, after "wherein" **delete** "the", **insert** therefor —claim 1—

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Claim 33, line 1, **delete** "claim 6", **insert** therefor --claim 1--

## **REASON FOR ALLOWANCE**

The prior art of record fails to teach or suggest the claimed invention individually or in combination the limitation of "generating first data representing differences between said groups of descriptor vectors;

generating second data representing variations within said groups of descriptor vectors;

identifying a set of component vectors that maximizes an F distributed criterion function, said F distributed criterion function having a numerator based upon said first data and a denominator based upon said second data;

generating an F distributed statistic for subsets of said component vectors, said F distributed statistic having a numerator based upon said first data and a denominator based upon said second data;

for each particular subset of component vectors, calculating a probability value for the F-distributed statistic associated with the particular subset;

selecting a probability value from probability values for said subsets of component vectors based upon a predetermined criterion;

identifying the subset of said component vectors associated with the selected probability value;

generating a mapping to a space corresponding to the subset of component vectors associated with the selected probability value, and storing the mapping for subsequent processing" as set forth in claim 1.

5. Dependent claims 4, 7-15, and 31-33 being further limiting to the independent claim 1 are definite, and enabled by the specification are also allowed.

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6. The closest prior art, Platt et al. (US 5784294 A), describes a computer-based method and system describes molecules in a most fundamental and compact way using a set of attributes of the molecule derived from data representing the atomic structure and atomic charge of the molecule.. However, Platt et al. does not teach or suggest the limitations cited above as being free of any prior art when read in the claims as a whole.

### **CONCLUSION**

7. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

8. For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199. The USPTO's official fax number is 571-272-8300.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Dune Ly, whose telephone number is (571) 272-0716. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo, can be reached on (571) 272-3642.

C. Dune Ly  
Primary Examiner  
10/14/07

A handwritten signature in black ink, appearing to be 'C. Dune Ly', written over the printed name and date.